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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,658	03/31/2004	Xavier Catry	BDLLE-456XX	5982
207	7590	04/05/2005	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP TEN POST OFFICE SQUARE BOSTON, MA 02109			WELCH, GARY L	
			ART UNIT	PAPER NUMBER
			3765	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/814,658	CATRY ET AL.	
	Examiner	Art Unit	
	Gary L. Welch	3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 22-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,22-29,31,33,35-37 and 40-43 is/are rejected.
- 7) ☒ Claim(s) 30,32,34,38 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03312004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Reference characters "α", "S", "20" and "21" (see Figure 5) is not disclosed in the specification.

Reference character "N" (page 5, line 14) is not disclosed in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: It appears that the following changes are required:

Page 8, line 27: Change "11" to --2--

It is respectfully requested that subject headings (i.e., Brief Description of the Drawings, Summary of the Invention, Detailed Description, etc.) be inserted at the appropriate sections of the specification.

Appropriate correction is required.

Claim Objections

3. Claims 1, 2, 22, 27, 33, 35, 37 and 40-43 are objected to because of the following informalities:

Claim 1, line 9: Delete "means, particularly vacuum means," and insert --vacuum means--

Claim 2, line 2: Change "vacuum" to --dispersion--

Claim 1, lines 10-11: Delete "are capable of producing" and insert --produces--

Claim 1, lines 12-13: Delete "projects them" and insert --project--

Claim 1, lines 15-16: Delete "zone--called the vacuum zone--" and insert --vacuum zone--

Claim 22, line 2: Range "5 to 50 mm" is not supported in the specification and therefore lacks antecedent basis therewith

Claim 27, line 2: Range "5 to 20 mm" is not supported in the specification and therefore lacks antecedent basis therewith

Claims 33 and 40-43, lines 2-3: Recitation "the secondary section" is not disclosed in any claim from which the subject claims depend from and therefore the recitation lacks antecedent basis

Art Unit: 3765

Claim 35, line 4: Range "10 to 30 mm" is not supported in the specification and therefore lacks antecedent basis therewith

Claim 37, line 3: Recitation "the distance d" is not disclosed in any claims from which claim 37 depend from and therefore the recitation lacks antecedent basis.

Furthermore, the range "5 to 20 mm" is not supported in the specification and therefore lacks antecedent basis therewith

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 22-29, 31, 33, 35-37 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovgren et al. (U.S. 4,475,271) in view of Brabant et al. (U.S. 5,584,101).

Lovgren et al. discloses a machine 16 for making a non-woven material 36 by aerological means. The machine 16 comprises a forming and conveying surface 34 that is permeable to air. A dispersion chamber (30, 32) is positioned above the forming and conveying surface 34. Means 22 is provided for supplying the dispersion chamber with fibers. Vacuum means 33 is positioned and located under the forming and conveying surface which produces an airflow inside the

dispersion chamber that allows the fibers inside the chamber to disperse and project onto the forming and conveying surface.

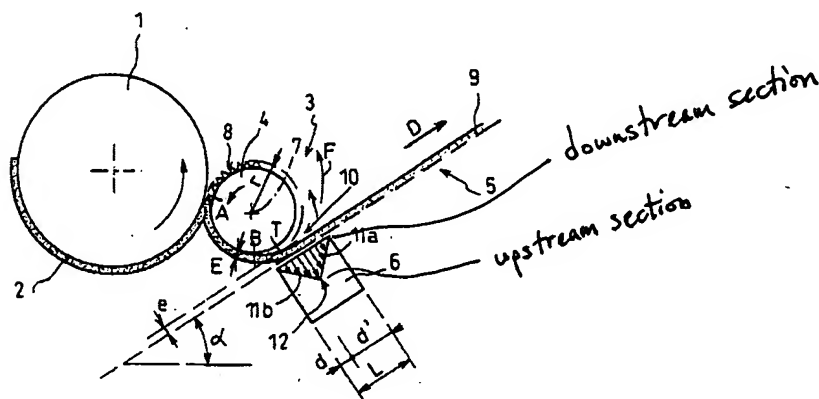
However, Lovgren et al. does not disclose that the vacuum means provides a reduction in vacuum speed between the upstream and downstream parts of the vacuum zone.

Brabant et al. teaches a machine for making a non-woven material by aerological means. The machine comprises a forming and conveying surface 5 that is air permeable, a dispersion cylinder 4 surmounting the forming and conveying surface, means 1 for supplying the dispersion chamber with fibers and vacuum means 6 located under the forming and conveying surface that produces an air flow that allows the fibers to disperse and project onto the surface. The vacuum means 6 creates a reduced suction from an upstream location (see figure below) to a downstream location (Col. 7, lines 38-54 and Col. 8, lines 16-22). This varying suction enables the machine to remove and convey a web from a prior fiber processing machine (i.e., carder, etc.) wherein the web has a weight range from 50 g/m² to 100 g/m² at high operating speeds such as 300 m/min while conserving the isotropic mechanical properties of the web (i.e., no web stretching).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the suction device of Lovgren et al. with the suction device taught by Brabant et al. in order to remove and convey a web from a prior fiber processing machine (i.e., carder, etc.) wherein the web has a weight

Art Unit: 3765

range from 50 g/m^2 to 100 g/m^2 at high operating speeds such as 300 m/min while conserving the isotropic mechanical properties of the web (i.e., no web stretching).



With regard to claim 2, the downstream wall 32 of the dispersion chamber is a plate wherein the lower edge is spaced from the non-woven material such that the non-woven material does not contact the wall.

With regard to claim 22, the height of the downstream wall is not disclosed by Lovgren et al. However, a review of the applicant's specification does not reveal the claimed limitation and therefore no criticality exists for this limitation. It would have been obvious through routine experimentation to provide a spacing between the conveying surface and the downstream wall so as to provide optimum clearance for a predetermined sized compressive roller 40.

With regard to claim 23, cylinder 40 is provided at the lower edge of the downstream wall.

Art Unit: 3765

With regard to claim 24, vacuum means 6 is a single vacuum tank in which the vacuum conditions vary from an upstream part to a downstream part of the vacuum zone.

With regard to claim 25, the vacuum means 6 is a multi-stage vacuum tank having distinct vacuum conditions (Col. 8, lines 16-22).

With regard to claim 26, the first stage developing the highest vacuum is located under the dispersion chamber and at least one second stage having a vacuum speed less than the first stage is provided downstream thereof.

With regard to claim 27, the distance d being from 5 to 20 mm is not disclosed in the specification and therefor there is no criticality for the claimed range. It would have been obvious through routine experimentation to extend the distance of the first stage in the range of 5 to 20 mm in order to provide a predetermined level of compaction of the fibers onto the conveying surface.

With regard to claim 28, only one second stage is provided wherein the vacuum speed decreases gradually from upstream to a downstream section (see figure above).

With regard to claim 29, the secondary section is a vacuum zone and has a plurality of successive stages (see figure above).

With regard to claim 31, the vacuum speed in each second stage gradually decreases from upstream to a downstream section.

With regard to claims 33 and 40-43, at least one compressive roller 40 is provided in the secondary stage section.

Art Unit: 3765

With regard to claim 35, the compressive roller 40 is provided a short distance and perpendicular to the lower edge of the downstream wall 32. The claimed range distance is not disclosed in the specification and therefore no criticality exists for this range. It would have been obvious through routine experimentation to position the roller next to the downstream wall and within the claimed range in order to ensure a proper seal between the dispersion wall and the conveying surface.

With regard to claims 36 and 37, the claimed limitations are disclosed in one or more of the above rejected claims. The claimed range for the distance (5 to 20 mm) is not disclosed in the specification and therefore no criticality exists for this limitation.

Allowable Subject Matter

6. Claims 30, 32, 34, 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

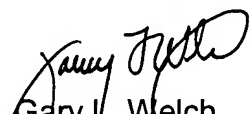
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Leifeld '631 and Appel et al. '448 disclose an apparatus for making a non-woven having a conveying surface and a vacuum means comprised of a plurality of stages.

Art Unit: 3765

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Welch whose telephone number is (571) 272-4996. The examiner can normally be reached on Mon-Fri 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John J. Calvert can be reached on (571) 272-4983. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gary L. Welch
Primary Examiner
Art Unit 3765

glw